

HARVARD
MEDICAL
ALUMNI
bulletin

March/April 1971

The negative power of anxiety...

This man thinks he may never work again.



7 MAY 1971

The patient who has had a myocardial infarction is usually advised by his physician to avoid emotional excitement. All too often his family, acutely concerned, transmits its anxiety to him, urging him to "rest, rest."

How anxiety may interfere

In many cases the mere apprehension that return to work might shorten life prevents the patient from resuming activities. It is also well known that emotional disturbance is probably the most common cause of cardiac disability in postinfarction cases,¹ and Thomas² suggests: "Intensive investigation of the sources and kinds of anxiety, and how destructive forms of anxiety can be identified and relieved may be the next important step in the prevention of coronary heart disease."

As an adjunct in cardiovascular therapy, Librium®

(chlordiazepoxide HCl):

- Quickly relieves anxiety of mild to severe degree in most cases
- May help patient to follow therapeutic regimen
- Is used concomitantly with certain specific medications of other classes of drugs, such as cardiac glycosides, diuretics and antihypertensive agents
- Helps encourage productive activities by relieving anxiety
- Is suitable for extended therapy, usually without need for increase in dosage; periodic blood counts and liver function tests are advisable.

References:

1. Sigler, L. H.: *Geriatrics*, 22;(9) 97, 1967.
2. Thomas, C. B.: *Johns Hopkins Med. J.*, 122:69, 1968.

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Indicated when anxiety, tension and apprehension are significant components of the clinical profile.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation, or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating

drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (e.g., excitement, stimulation and acute rage) have been reported in psychiatric patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

To curb moderate to severe anxiety in the postcoronary patient

adjunctive

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1 or 2 capsules
t.i.d./q.i.d.



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Alumni Day-Friday, June 4, 1971

8:00 a.m.-2:00 p.m.

REGISTRATION

Building A

MORNING PROGRAM

9:30 a.m.

Welcome

F. Sargent Cheever '36, President
Dean Robert Higgins Ebert

Longwood Quadrangle

9:45 a.m.

James H. Donald '46, Moderator

Paul D. White '11

The Individuality of Man in Health and Disease

William B. Castle '21

A Glance at 50 Years of Clinical Medicine at Harvard

Herbert L. Ley '46

The Citizen, Chemicals, and Controls

Chase N. Peterson '56

Back Across THE River

A. Clifford Barger '43A

To Build Castles in the Air: History of the Department of Physiology

Presentation of the 25th Reunion Gift

11:45 p.m.

PRESIDENT PUSEY will join us for LUNCHEON ON THE LONGWOOD QUADRANGLE

AFTERNOON PROGRAM

2:00 p.m.

Annual Business Meeting

F. Sargent Cheever '36, President

Longwood Quadrangle

2:15 p.m.

THEME: The Interface Between Students and Alumni

John R. Brooks '43B, Moderator

Student-Alumni Interaction: Some Perspectives

Kim Masters '72

The Student Faculty Committee and the Alumni

A Student's View — Howard L. Freedman '73

A Faculty Member's View — James J. Feeney '52

An Administrator's View — Joseph W. Gardella, Dean of Students

Students and Alumni in Family Practice: An Example

A Student's View — Philip E. C. Compeau '71

The Practitioner's View — Larry G. Seidl, Jr. '61

Harvard Admissions and the Minority Group Student

(Speakers to be Announced)

HMS 1967-1971: A Brief Overview of Issues and Problems

A Student's View — David M. Bear '71

A Faculty Member's View — William V. McDermott '42

4:00 p.m.

Adjourn

6:30 p.m.

CLASS REUNION DINNERS

1921, 1926, 1931, 1936, 1941, 1946, 1951, 1956, 1961, 1966

HARVARD MEDICAL SCHOOL

1971 REUNIONS

Thursday, June 3rd

- 1946** Dinner, Harvard Club, Harvard Hall

**Friday, June 4th
ALUMNI DAY**

- 1921** Dinner, Harvard Club, Massachusetts Room
- *1926** Dinner, Holyoke Center Penthouse, 75 Mt. Auburn Street, Cambridge
- 1931** Dinner, Harvard Club, Aesculapian Room
- 1936** Dinner Dance, Hotel Sonesta, 5 Cambridge Parkway, Cambridge
- 1941** Outing at Edgartown, Martha's Vineyard
- *1946** Dinner Dance, The Country Club, 191 Clyde Street, Brookline
- 1951** Dinner Dance, Sheraton Plaza Hotel
- *1956** Dinner Dance, Anthony's Pier 4, (S. S. Peter Stuyvesant)
- *1961** Dinner Dance, Castle Hill Foundation, Ipswich
- 1966** Cocktails, Countway Library, Minot Room

Saturday, June 5th

CLASS DAY

- *1921** Luncheon, the Kazanjian's, 191 Clifton Street, Belmont
- *1926** Outing and lobsterbake at the Burrage's, Coolidge Point, Manchester-by-the-Sea
- 1931** Outing and lobsterbake at Dr. Kennard's, 246 Dudley Road, Newton Center
- *1936** Outing and lobsterbake at the Ulfelder's, King Caesar Road, Duxbury
- 1941** Outing at Edgartown, Martha's Vineyard
- *1946** Outing and lobsterbake at the Herbert Fisher's, 17 Miles Road, Hingham
- *1951** Outing and lobsterbake at the Robey's, Ames Estate, Bay View near Annisquam
- *1956** Outing and lobsterbake, Emerson Inn, Rockport
- 1961** Gardiner Party at Tenley Albright's, 104 Codman Road, Brookline
- 1966** Outing and lobsterbake, Home of Dr. and Mrs. Carlton Akins, Strawberry Hill, Dover

*By bus

*By bus

Alumni PROGRAM

JUNE 3, 4, & 5, 1971

SEVENTH ANNUAL TOUR PROGRAM—1971

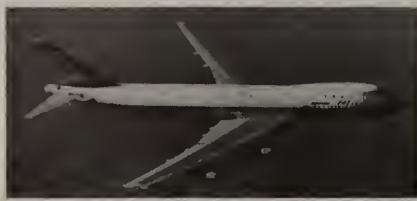
This unique program of tours is offered to alumni of Harvard, Yale, Princeton, M.I.T., Cornell, Columbia, Dartmouth, and the Univ. of Pennsylvania and their families. The tours are based on special reduced air fares which offer savings of hundreds of dollars on air travel. The tour to India, for example, is based on a special fare, available only to groups and only in conjunction with a tour, which is almost \$400 less than the regular air fare. Special rates have also been obtained from hotels and sightseeing companies. Air travel is on regularly scheduled jet flights of major airlines.

The tour program covers four areas where those who might otherwise prefer to travel independently will find it advantageous to travel with a group. The itineraries have been carefully constructed to combine the freedom of individual travel with the convenience and saving of group travel. There is an avoidance of regimentation and an emphasis on leisure time, while a comprehensive program of sightseeing ensures a visit to all major points of interest. Hotel reservations are made as much as a year and a half in advance to ensure the finest in accommodations.

THE ORIENT

30 DAYS \$1739

1971 marks the seventh consecutive year of operation for this outstanding tour, which offers the greatest attractions of the Orient at a sensible and realistic pace. Twelve days are devoted to the beauty of JAPAN, visiting the ancient "classical" city of KYOTO, the lovely FUJI-HAKONE NATIONAL PARK, and the modern capital of TOKYO, with excursions to Japan's first capital at NARA, the magnificent medieval shrine at NIKKO, and the giant Daibutsu at KAMAKURA. Also to be seen are BANGKOK, with its glittering temples and palaces; the fabled island of BALI, considered one of the most beautiful spots on earth; the mountain-circled port of HONG KONG, with its free port shopping; and the cosmopolitan metropolis of SINGAPORE, known as the "cross-roads of the East." A complete program of sightseeing will include all major points of interest, as well as various special features. Tour dates have been chosen to include outstanding seasonal attractions in Japan, such as the spring cherry blossoms, the beautiful autumn leaves, and some of the greatest annual festivals in the Far East. Limited stopovers may be made in HONOLULU and the WEST COAST at no additional air fare. Total cost is \$1739 from California, \$1923 from Chicago, and \$1997 from New York, with special rates from other cities. Departures in March, April, June, July, September and October 1971.



MOGHUL ADVENTURE

29 DAYS \$1649

An unusual opportunity to view the outstanding attractions of India and the splendors of ancient Persia, together with the once-forbidden mountain kingdom of Nepal. Here is truly an exciting adventure: India's ancient monuments in DELHI; the fabled beauty of KASHMIR amid the snow-clad Himalayas; the holy city of BANARAS on the sacred River Ganges; the exotic temples of KHAJURAHO; renowned AGRA, with the Taj Mahal and other celebrated monuments of the Moghul period such as the Agra Fort and the fabulous deserted city of Fatehpur Sikri; the walled "pink city" of JAIPUR, with an elephant ride at the Amber Fort; the unique and beautiful "lake city" of UDAIPUR; a thrilling flight into the Himalayas to KATHMANDU, capital of NEPAL, where ancient palaces and temples abound in a land still relatively untouched by modern civilization. In PERSIA (Iran), the visit will include the great 5th century B.C. capital of Darius and Xerxes at PERSEPOLIS; the fabled Persian Renaissance city of ISFAHAN, with its palaces, gardens, bazaar and famous tiled mosques; and the modern capital of TEHERAN. Outstanding accommodations include hotels that once were palaces of Maharajas. Total cost is \$1649 from New York. Departures in January, February, August, October and November 1971.

AEGEAN ADVENTURE

22 DAYS \$1299

This original itinerary explores in depth the magnificent scenic, cultural and historic attractions of Greece, the Aegean, and Asia Minor—not only the major cities but also the less accessible sites of ancient cities which have figured so prominently in the history of western civilization, complemented by a luxurious cruise to the beautiful islands of the Aegean Sea. Rarely has such an exciting collection of names and places been assembled in a single itinerary—the classical city of ATHENS; the Byzantine and Ottoman splendor of ISTANBUL; the site of the oracle at DELPHI; the sanctuary and stadium at OLYMPIA, where the Olympic Games were first begun; the palace of Agamemnon at MYCENAE; the ruins of ancient TROY; the citadel of PERGAMUM; the marble city of EPHESUS; the ruins of SARDIS in Lydia, where the royal mint of the wealthy Croesus has recently been unearthed; as well as CORINTH,

EPIDAUROS, IZMIR (Smyrna) the BOSPORUS and DARDENELLES. The cruise through the beautiful waters of the Aegean will visit such famous islands as CRETE with the Palace of Knossos; RHODES, noted for its great Crusader castles; the windmills of picturesque MYKONOS; the sacred island of DELOS; and the charming islands of PATMOS and HYDRA. Total cost is \$1299 from New York. Departures in April, May, July, August, September and October, 1971.

EAST AFRICA

22 DAYS \$1649

A luxury "safari" to the great national parks and game reserves of Uganda, Kenya and Tanzania. These offer a unique combination of magnificent wildlife and breathtaking natural scenery: a launch trip on the White Nile through hippo and crocodile to the base of the thundering Murchison Falls and great herds of elephant in MURCHISON FALLS NATIONAL PARK; multitudes of lion and other plains game in the famous SERENGETI PLAINS and the MASAI-MARA RESERVE; the spectacular concentration of animal life in the NGORONGORO CRATER; tree-climbing lions around the shores of LAKE MANYARA; the AMBOSELI RESERVE, where big game can be photographed against the towering backdrop of snow-clad Mt. Kilimanjaro; and the majestic wilds of TSAVO PARK, famous for elephant and lion. Also included are a cruise on famed LAKE VICTORIA, visits to the fascinating capital cities of NAIROBI and KAMPALA, and a stay at a luxurious beach resort on the beautiful Indian Ocean at historic MOMBASA, with its colorful Arab quarter and great 16th century Portuguese fort, together with an optional excursion to the exotic "spice island" of ZANZIBAR. Tour dates have been chosen for dry seasons, when game viewing is at its best. The altitude in most areas provides an unusually stimulating climate, with bright days and crisp evenings (frequently around a crackling log fire). Accommodations range from luxury hotels in modern cities to surprisingly comfortable lodges in the national parks, most equipped even with swimming pools). Total cost from New York is \$1649. Departures in January, February, March, July, August, September and October 1971.

Rates include Jet Air, Deluxe Hotels, Meals, Sightseeing, Transfers, Tips and Taxes. Individual brochures on each tour are available.

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The opinions of contributors to the Bulletin do not necessarily reflect those of the Editorial Staff.

CHARLES WILLIAM ELIOT MEDICAL MESSIAH

by JEAN A. CURRAN '21

ANY attempt to review the tremendous contribution of Charles W. Eliot to the advancement of education in medicine, from his first contact with Harvard Medical School as an instructor in chemistry in 1856 until retirement fifty-three years later in 1909, is indeed an awesome task! During those years, by the sheer force of his personality, leadership, and extraordinary vision of the true role of Harvard University in the educational world, he was able to guide the Medical School from mediocrity to excellence. That achievement was largely instrumental in paving the way for the national revolution in American medical education after 1910.

This story has special meaning to the Harvard Medical Class of 1921, as it prepares to celebrate its 50th reunion. As far as I know it was the final class to enjoy the honor of an address by President Eliot. During our first year, as a Phillips Brooks House representative, I had the privilege of inviting Mr. Eliot to speak to us on "The Place of Religion in the Life of the Physician." To a certain extent it was his valedictory to us, and probably to the School, for he was in his 84th year.

He met with us at five o'clock one afternoon in the auditorium, then in A Building, and for nearly an hour we listened spell-bound to his deep melodious voice as he expounded his concepts of a physician's spiritual motivations. His tall, stiffly erect figure, and gaunt features set off by the dark red birth mark on the right side of his face, merely added to his distinguished appearance. Even as newly arrived first-year students we realized that we were in the presence of one of the greatest if not the greatest man Harvard ever produced — a legend in his own lifetime!

As an introduction, in a semi-humorous vein he remarked that doctors were suspected of being unbelievers, because the Darwinian revelations caused them, as men of science, to doubt the Creation Story in Genesis. This was reinforced by irregular attendance at divine worship because of emergencies among the patients on Sundays! But the traditions of medicine, going back to the ancient ideals of the Hippocratic Oath, ensured that physicians were engaged in the most idealistic of callings: always putting the needs of their patients ahead of their own interests and risking life itself in the dangers of battle or pestilence.

Since this was during World War I, a classmate recalls a reference to the use of Carrel-Dakin solution in infected wounds in military hospitals, and compared it with what was perhaps the first recorded use of an antiseptic by the Good Samaritan, who poured wine and oil into the lacerations of the victim he attended.

Mr. Eliot's own inspirations must have had deep religious roots. Shortly after graduating from Harvard in 1854, he wrote to his mother:

I have chosen the profession of a student and teacher of science . . . to do all to the glory of God, should he be the ruling motive of a Christian life. Man glorifies God first by being useful . . .¹

To a remarkable degree, Eliot prepared the way, and even paralleled in impact the career of another unique pioneer in the field, Abraham Flexner, but some 40 years before the publication of the latter's epoch-making Report #4 in 1910. Perhaps they were both almost ruthlessly effective because they were *not* doc-

tors of medicine, and hence, neither emotionally nor intellectually inhibited by traditional attachments to the status quo. From the outset, Eliot was determined to introduce university control and guidance into liberal arts and science, and advance the academic opportunities for graduate school excellence. Included of course was medical education, of such a quality that the rest of the country would be inspired to emulate it.

Like all great leaders, Charles W. Eliot's career was one of continuous growth as he matured and grew in wisdom. He began his career as a tutor of mathematics at Harvard and had his first taste of student governance as a member of the Parietal Board. His earliest flair for reform was participation in a move to introduce a grading system at the College with written examinations. There was even a chance to shine as a star athlete, as a member of the six oared crew, composed chiefly of graduate students that "swept the river" in three and six mile races, in city regattas, June 19 and July 5, 1858. Around their heads were crimson silk handerchiefs, apparently the first recorded wearing of the Harvard colors.²

There being no registration provision for graduate courses, Eliot began serious studies in chemistry as a volunteer worker in the laboratory of Josiah P. Cooke, Erving Professor of Chemistry, at both the College and the Medical School. By 1856 he had progressed far enough to fill in as a substitute for Cooke at the Medical School, "his first chance to teach a chemical class of his own."¹ From that experience he concluded that the School "was in a feeble condition and tolerating a deplorably low average level of attainment among its students."²

Eliot's Preparation For Administration

By 1860 Mr. Eliot was assistant professor of mathematics and chemistry, and was exhibiting an interest in administrative organization and building construction. This led to his being placed in charge of the department of engineering in 1862. By 1863 the chemistry department in the Lawrence Scientific School was "under the charge of Charles W. Eliot."³ Disappointed because he was not named Rumford Professor, Eliot seized the opportunity to spend two years in France, Germany and England, during which time he "devoted more to intensive investigation of the educational systems . . . than to study and research in his own field."² He was deeply impressed with the scientific advances being made in German centers, both in undergraduate and graduate education, with stimulation of inquiry and research, under university control and with government financial support. He returned home convinced Harvard should follow suit. He crystallized these concepts in an article, "The New Education," published in the *Atlantic Monthly* in 1868, while he was professor of analytic chemistry at MIT, as well as a newly elected Overseer of Harvard College.

When he was elected President of Harvard University, May 10, 1869, he faced a grim picture at the Medical School. Eliot wrote to a friend: "There is more bad blood in the Medical Faculty than in all the rest of the University put together."²

Samuel Eliot Morison added: "A vicious system of medical instruction was strongly entrenched. The students, many of whom had not even a good high school education were rowdy and illiterate."²

YEARS OF THE PRESIDENCY, 1869-1909

A systematic review of the 40 years of Mr. Eliot's printed Annual Reports³ and the Faculty Minutes⁴ (inscribed in Spencerian Script) reveal the story of progress in detail. The sheer extent of the revolution within the University, beginning in

1869, was starkly revealed by the inadequacies of existing facilities, as well as the complacency of both administration and faculty, as to academic deficiencies.

President Thomas Hill in 1868 concluded:

The Medical School is largely indebted to the active intelligent zeal of its Faculty for its prosperous condition. It needs, however, large funds for the erection of a new building and other purposes . . . Moreover the present lecture rooms, like those in the Academic Department, are not large enough to seat the classes; there are no recitation rooms, no proper room for teaching the use of the microscope; the laboratory will not accommodate one-third of the students desiring to work in it.³

Andrew P. Peabody, Eliot's immediate predecessor, was confident when he said:

The School has never occupied a higher position, absolutely or relatively, than at this moment. But its extended reputation [in its present condition,] is a source of embarrassment; for its classes are outgrowing its lecture rooms.³

There was one development to disturb the *academic* calm — a "women's lib" movement in 1868! Interpretation of a permission by President Peabody to admit women to attend university lectures, had resulted in their attendance at a medical class. But the Corporation overruled the President, and the faculty voted on the motion of Dr. Henry J. Bigelow: ". . . that females should not be allowed to attend lectures nor receive any instruction at the Medical College."⁴

So this was a problem the new president did not have to deal with, albeit sympathetically, until later!

One of President Eliot's first tasks

Eliot when he became President



was to establish new statutes to supersede those adopted by the Medical School and approved by the Corporation and Overseers, the year before he took office.

The Faculty Minutes for May 20, 1868 contain a beautifully inscribed list of statutes and by-laws for the Medical School, with its government by an executive committee, composed of the president and professors; a dean elected by themselves to serve as secretary, and a chairman, elected annually to preside at stated meetings. The outmoded system of winter and summer courses, and oral examinations was confirmed. A student could graduate after having attended only two courses of lectures of four months, preceded or accompanied by three years' preceptorship with a practitioner, and not failing more than four of the nine courses in the curriculum!

In keeping with its new statutes, the faculty, at a stated meeting with Oliver Wendell Holmes in the chair, unanimously voted "that President Eliot be invited to attend the meetings of the Faculty . . . and be requested to give the valedictory address."⁴

Although this invitation involved his participation in the meeting, by virtue of his office, no administrative function was apparently intended. However, Mr. Eliot fully recognized his paradoxical position and was prepared to meet a faculty challenge without delay. The confrontation occurred at the home of Dr. Henry J. Bigelow, leader of the opposition, on November 26, 1869. Without waiting on ceremony, Mr. Eliot calmly seated himself at the head of the table and called the meeting to order!

The Faculty Minutes record: "Present — President Eliot, and Professors Jackson, Wyman, Bigelow, Clark, Hodges, White and Ellis. President Eliot in the chair."⁴

The 35-year-old President had won the first round with the formidable Bigelow, aged 51, and scholarly Holmes, 60, who were not yet prepared to submit to the direction of what they considered an inexpe-

rienced young layman lacking real understanding of medical matters.

In this crisis, the youthful President was not to be overawed or deflected from his purpose. He was sustained by his deeply spiritual conviction of the rightness of his cause, his clear vision of the road ahead, and his sense of mission — to lead the University to greatness.

Before the meeting closed he calmly and tactfully announced that the "Statutes of the College were to be revised and suggested that those of the Medical Department might be changed so as to correspond in character with those of the other Departments."⁴

By February, 1870, the Corporation and Overseers had confirmed the position Eliot had taken at the Medical School by adopting a new statute, regarding the duties of the President on all official occasions, including the obligation "to preside over the several faculties."³

During 1870-71 Eliot's revolutionary changes were carried through in spite of strenuous opposition from Bigelow and Holmes. The latter, however, was soon won over, and delightedly watched the progress of the struggle, referring to Eliot as having turned the Medical School upside down "like a flapjack."

Many years later Eliot spoke appreciatively of loyal support he received initially from Dean Calvin Ellis. In addition, James C. White, John B. S. Jackson, and David W. Cheever supported and followed his lead.

In the spring of 1871 the Corporation and Overseers "united in repealing the whole body of the Statutes of the Medical School,"³ sweeping away the outdated faculty regulations. According to the Faculty Minutes there were stormy sessions almost every day for some time before agreement could be reached on the orders of procedure laid down by their dynamic new leader.

At the March 21, 1871 meeting at Bigelow's home Eliot presided as usual. Premedical requirements were spelled out. In place of the regular four months winter and the optional

spring courses, a full academic year was set up, divided into two semesters. The entire medical course would cover three progressive academic years with the stipulation that "all examinations shall be conducted in part, at least, by question and answer, upon paper."⁴ Most important of all, "no student shall receive a degree until he has passed a satisfactory examination in all subjects," and prepared an acceptable thesis.⁴

THUS the revolution began. Eliot was now able to report to the Governing Board that the faculty, after prolonged discussion, "unanimously resolved to venture upon a complete revolution in the system of Medical education."³

He took great satisfaction in the achievement of providing laboratory work in all of the basic sciences, in addition to the didactic lectures. The once standard fee collection by professors was abolished; an annual tuition fee of \$200.00 was established, and management of the School's finances was turned over to the Corporation. The proprietary era of Harvard Medical School came to an end!

More changes were to come. Dr. Henry Pickering Bowditch became the first full-time salaried teacher of physiology and, with Eliot's encouragement, spent the years 1868-71 in Europe, studying the latest advances in his field at the great universities of Paris, Bonn, Leipzig and Munich. When Bowditch returned, Holmes, the current lecturer on physiology as functional anatomy, gracefully stepped aside to permit him to set up a separate department, which he presided over with the rank of assistant professor. When asked to whom he was "assistant," Bowditch smilingly replied, "To myself." In introducing student laboratory and research activities he quite literally "raised the roof" of the old building on North Grove Street; he converted three unused attic rooms into physiology laboratories and a

microscope room. For the next 28 years, Bowditch was an inspiring leader in his field, attracting eager young investigators, undergraduate and graduate, including his successor Walter B. Cannon.

Meanwhile Eliot was bent on pushing drastic reforms for the entire system in medical education. In his 1871-72 Report, his critique was devastating:

It would be difficult to overstate the importance of the effort which this single School is making . . . to improve the system of instruction in the United States. The ignorance and general incompetency of the average graduate of American Medical Schools at the time he receives the degree which turns him loose on the community is something horrible to contemplate . . .

The mistakes of an ignorant or stupid young physician or surgeon means poisoning, maiming, and killing or at the best, may mean failure to save life and health . . .

The Harvard Medical School has successfully begun a revolution in this system. A liberal endowment to the School would ensure success.³

By the end of that year all of the Medical School graduates had to pass written examinations in *all* branches! Eliot was able to report a new spirit: "The chemical laboratory was crowded, the large and excellent microscope room was in constant use, the practical instruction in anatomy, systematized."³

It was during these days of momentous change that the famous confrontation took place. At a faculty meeting, Bigelow demanded to know "why so many changes were proposed when everything was prosperous and quiet. For a moment there was dead silence. Then, President Eliot, with that peculiar firm softness which belongs to some of his utterances [replied], 'I can tell Dr. Bigelow the reason: we have a new President.' "⁵

Although subdued for the moment, Bigelow was not silenced and in frequent stormy succeeding faculty meetings, was both a forceful per-

sonality and an able debater. His efforts to bring the President to his own way of looking upon the questions at issue were determined and unrelenting and occasionally humorous."⁵

In a formal presentation before the Massachusetts Medical Society, Bigelow challenged the concept of university jurisdiction of medical education current in Germany, when he said, "a University should depend largely upon the guidance and wisdom of those to whom it does not scruple to entrust its teaching, and could not judge accurately their scientific competence."⁶ He was quite satisfied with the old curriculum. Nonetheless, the State Society voted approval of the new system at Harvard Medical School.

Over the dozen years from 1871 to 1883, when the Medical School continued in its grossly inadequate building on North Grove Street, adjacent to the Massachusetts General Hospital, success of Eliot's efforts must have seemed painfully

slow. However, by 1874, the new three-year curriculum was fully implemented, and in 1877 Eliot could report proudly that Pennsylvania and Michigan universities were following Harvard's example. That year an invitation to accept membership in the Association of American Medical Colleges was declined because its standards were so much lower than those achieved at Harvard! At that time, Miss Marion Hovey offered the Medical School \$10,000 on condition that the "advantages be offered to women on equal terms with men."³ Mr. Eliot and the Governing Boards were in favor of accepting the gift, but the faculty would agree only if \$200,000 in permanent funds could be obtained to ensure against financial risks involved.

Mr. Eliot was sure that "the reasons given by the Faculty for not admitting women are temporary in their nature."³ He was encouraged in that belief by the action of the Councillors of the Massachusetts Medical Society on

Eliot at retirement



October 1, 1878 to "instruct the Censors of the Society to admit females to examination — for Fellowship."³

PLANS FOR A NEW BUILDING AT COPLEY SQUARE

The need for a new enlarged building had become all too obvious, and Eliot was delighted to announce that on April 1, 1880 "an admirably situated lot on Boylston and Exeter Streets was bought for the School at a cost of \$83,325, and construction plans begun."³ The Boston City Hospital had been opened in 1864 and the new site was considered to have the advantage of being equidistant to it, the MGH, and the old Children's Hospital on Huntington Avenue. Furthermore, the area was recognized as a burgeoning cultural, academic, and religious center, with the Boston Public Library, the Art Museum, "MIT," and Old South and Trinity Churches, newly grouped around the Square. The impressive red brick building of the Medical School was dedicated October 17, 1883 and according to Eliot it fulfilled "the highest expectations of spaciousness and serviceability, to stimulate medical research."³ But he still lamented the presence of only three inadequately endowed professorships, and "no professorship in the all-important subject of public health."³

That year both Bigelow and Holmes retired and Bowditch became Dean.

The new era of bacteriology was ushered into American medicine in 1885 by Harold C. Ernst, who was working in Bowditch's new physiology laboratory. By 1890 the President was elated over the completion of a new pathology-bacteriology laboratory, "spacious, well-lighted and convenient . . . ready for use just when public interest in bacteriology was greatly stimulated by the bold experiments which German scientists have been making."³

The great event at the Medical School in the year 1892-93, according to Eliot, was the initiation of a new rule requiring four years of

study for the degree of Doctor of Medicine. This was just one year before Johns Hopkins Medical School admitted its first small class, all with bachelor's degrees, for a four-year course. By contrast, Harvard Medical School had an entering class of 174, but only 28.2 percent were college graduates, and this was a cause of deep concern to President Eliot and Dean Bowditch.

By 1893 the President took great satisfaction in strengthening "the scientific side of medical instruction,"³ especially in pathology, physiology, histology, embryology and bacteriology. He emphasized the following:

The Medical student who becomes thoroughly imbued with the modern scientific spirit through the careful pursuit of experimental science . . . will make, both in Medical School and in after life a productive use of his clinical opportunities. The student who does not catch that spirit had better never have studied medicine.³

In 1885 when the first "break through" for women occurred, the faculty agreed to accept those with M.D. degrees for graduate courses.

Meanwhile Eliot expressed growing concern over the poor housing and food available to medical students and urged the provision of good low-rent rooms and a dining hall near the School. But this was not the only deficiency. By 1898, to the dismay of all concerned, it was all too obvious that the Copley Square building was seriously overcrowded, by a student body that had grown from 243 to 554 in the 15 years of its occupancy and had greatly increased its amount of research activities. Hence, Mr. Eliot concluded:

It is time to consider how and where a new building or new buildings should be planned . . . complicated by the need of a hospital directly connected with the School, and under the charge of its Faculty.³

After another year and a half of explorations, led by Dean Bowditch, the faculty was ready to act,

and at its meeting on May 5, 1900 voted unanimously to approve a committee report as follows:

. . . recommending the Francis Estate between Longwood Avenue and Francis Street as the most desirable location for the buildings under the charge of the Faculty of Medicine . . . [and] authorized the Committee to suggest a preliminary plan for the arrangement of the building and for laying out the grounds.⁴

Ten acres of the plot were reserved for the fine new buildings for the Medical School, grouped around a quadrangle; and the remaining 16 acres were reserved for the anticipated adjacent affiliated hospitals. Through a fortunate happenstance, instead of the red brick construction originally planned for, it was possible to obtain white marble for the exterior walls at no additional cost.

Few are aware that this momentous decision to re-locate was not arrived at without some opposition. Years later, in one of his last visits to the Longwood area in 1923, President Emeritus Eliot called upon Professor Edwin B. Wilson at his office in the Harvard School of Public Health. In the course of conversation he remarked that he was still being criticized for locating the Medical School on Longwood Avenue, because, he said;

. . . they wanted it in Cambridge, or possibly across the Charles River . . . They couldn't possibly have a place in Cambridge for any such development as we have here . . .⁸
(Who *they* were, was not disclosed!)

THE new medical campus, composed of 1,128,824 square feet was purchased at a cost of \$371,000 through the contributions of a special committee headed by Henry Lee Higginson. Construction of the A (Administration), B, and C buildings was made possible by a \$1,350,000 gift from John Pierpont Morgan; and \$1,000,000 from John

D. Rockefeller, Jr. went for the construction of the other two buildings (D and E). The total cost was estimated at \$4,950,000. Faculty committees joined with the architects in planning each building, and construction began in September 1903. President Eliot regretted his inability to include a student residence and dining hall in the plans.

The final years on Boylston Street, 1903-1906, engaged President Eliot's special attention as preparations were made for occupancy of the Medical School's magnificent new buildings. He was pleased that by the end of that period, all of the students in the School had entered with baccalaureate degrees, even though it resulted in reduction of enrollment from 605 in 1901 to 287 in 1906. In keeping with his long-time interest in public health, he was gratified by the completion of a new laboratory building of comparative pathology at Forest Hills where Professor Theobald Smith was producing vaccines and antitoxins, thereby saving thousands of lives.

Adoption of the free elective system in the fourth year, was a move close to the President's heart as one of his great contributions to education throughout the University. The extent and growing volume of research activity, he knew, augured well for the full use of the extensive laboratories in the new buildings.

The occupancy of the new buildings was celebrated September 25 and 26 with due pomp and circumstance. Mr. Eliot, on the first day in the open air on the terrace of A Building, at the head of the quadrangle, gave this dedication:

I devote these buildings, and their successors in coming time, to the teaching of medical and surgical arts which combat disease and death, alleviate injuries, and defend and assure private and public health, and to the pursuit of the biological and medical sciences on which depends all progress in the medical and surgical arts and preventive medicine.⁷

It marked the culmination of Eliot's

long years of unremitting effort to bring the Medical School to academic preeminence, and he enjoyed the privilege of formally accepting the building from the architects at the ceremonies. Suitable addresses were given by members of the faculty, John Warren, Maurice Richardson, Thomas Dwight, and Frederick C. Shattuck.

On the second day, at Sander's Theatre, Mr. Eliot spoke on the "Future of Medicine," and Professor William H. Welch of Johns Hopkins University, discussed the "Unity of Science." The celebration was concluded at a Harvard Medical Alumni Association dinner at Memorial Hall.

In his presidential report for that year, Mr. Eliot announced with pride:

The buildings and the permanent funds which accompanied them constitute the largest single addition to the resources of the University which has been placed in the hands of the Corporation since it received its Charter in 1650.³

Over the years to follow, until 1909, the President was deeply gratified by the continuing advancements being made — most notably the decision by the faculty to open all their courses to fourth year students, graduates and special students, as well as those enrolled in other departments of the University, thereby multiplying the opportunities for cross-fertilization of experiences in laboratory and clinical sciences.

The reduced size of the student body with substantial lowering of income from tuition, together with added maintenance costs, posed a serious question for the President: "Can the Medical School with its present endowment live in a creditable way in its new buildings?"

His answer was:

[the school] has issued from its serious undertaking in possession of admirable buildings thoroughly adapted to their uses, and with a permanent endowment which will enable it

to live comfortably in the buildings, to restore salaries, and increase its activities in instruction and research.³

Mr. Eliot's concern about bridging the gap between "town and gown" led in 1907 to a series of annual free public lectures on medical subjects on Saturday evenings and Sunday afternoons. At the Medical School he noted the growing use of case teaching methods, an innovation first introduced by Walter B. Cannon as a fourth year student, after its origin at the Law School by Dean Langdell. A renewed effort to secure admission of women students to the enlarged new facilities was frustrated again when the faculty decided that it was "impractical at present."³

Among his last important acts were two appointments: Theobald Smith as chairman of the newly created Division of Medical Sciences in 1908, and the securing of Milton J. Rosenau, as the first full-time professor of the reorganized department of preventive medicine and hygiene in 1909. This ushered in a new era in that field, leading to the first degrees of Doctor of Public Health, and then to the establishment of the pioneering Harvard School of Public Health.

From the beginning of his presidency, Mr. Eliot had encouraged achievements in hygiene, public health, and preventive medicine, in close cooperation with his friend Henry Pickering Walcott, chairman of the State Board of Health and a member of the Harvard Corporation. When George Derby became the first professor of hygiene at the Medical School in 1871, he was simultaneously Secretary of the State Board of Health, establishing a tradition which continued for 40 years.

The President and Fellows joined the Medical Faculty in approving the relocation of the Dental School to an adjacent plot on Longwood Avenue and the construction of a new building proceeded without delay in 1908.

Mr. Eliot completed nearly 40 years as presiding officer at faculty meetings. On May 1, 1909 an illuminated parchment scroll was presented to him by Frederick C. Shattuck, Jackson Professor of Clinical Medicine, who gave eloquent expression to Faculty sentiments. Highlights were:

... it is what you have done for the Medical School, for Medical education, for Medicine in the largest sense, that our minds and hearts are full. You, Sir, as few laymen, early saw the signs of the times

You have converted the position of a layman to a vantage point, and your horizon has sometimes been wider than that of us specialists ... Your serene tolerance has sweetened controversy and promoted right decisions ... Under your leadership the Medical School became an integral part of the University ... The Boylston Street building, adequate as it seemed at the time for an indefinite period, was but a halfway house between the Grove Street building ... and this stately home

[He added that the advances in teaching and research] are among the outward and visible signs of an inward and spiritual grace which has permeated your life and stimulated those about you to do their part ... You have been the father of the Faculties, as it were, which you have wisely guided and at times, perhaps wisely chided. After laying aside your active responsibility, you will naturally take a grandfatherly position.⁴

In response, Mr. Eliot referred to his first lectures to the medical students, and chemical investigations in Professor Cooke's laboratory on Grove Street, when he was only 22 years of age, and then said in part:

The Medical School interested me from three points of view —, first, all its work lay within the field of natural science; secondly, the purpose and object of its instruction were improvements in the conditions of human life, individual, family, industrial and social; and thirdly, its methods

were capable of infinite improvement. Hence, the work done for the Medical School has been, I think, on the whole the most constructive part of my work.

Mr. Eliot made further comments on the importance of research:

. . . the medical profession, both those who are engaged in the actual treatment of the sick and injured persons, and those who are studying the source of disease and the modes in which diseases transmitted and spread, are actuated by the desire to make the world a little wiser, safer, and happier because they have lived in it ... This is the spirit of service and the joy of service which are the chief elements in the effective religions of today.⁴

Mr. Eliot submitted his resignation, effective May 19, 1909, the 40th anniversary of his election to the presidency.

According to the *Crimson* that day, there was no ceremony connected with the change because "every detail of official business has been carefully attended to by President Eliot, so that President Lowell . . . will find everything in readiness."⁹

In a statement in the same issue of the *Crimson*, entitled, "President Eliot and His Achievements," Mr. Lowell gave this appraisal:

President Eliot succeeded in his plans through his single-minded devotion to a constant aim. For years his interest was wholly centered in the University to which he gave the full force of his great vigour and his strong character. He lived for it, and built his bold personality into its structure.⁹

At the Commencement of June 1909, President Lowell gave the crowning accolade to his predecessor by conferring the Honorary Doctor of Medicine degree upon President Emeritus Eliot, with this statement:

It has not been our custom to confer the degree of Doctor of Medicine, *honoris causa*, but an exception is fitting in the case of one, who in the opinion of professors of medicine has accomplished more in the progress of medical education in this country than any other living man.

Charles William Eliot
Not in its building alone, but also in instruction and research within its walls, he found our Medical School brick, and left it marble.¹⁰

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THE WILLIAM O. MOSELEY, JR.

TRAVELLING FELLOWSHIPS

THE BEQUEST OF JULIA M. MOSELEY MAKES AVAILABLE FELLOWSHIP FUNDS FOR GRADUATES
OF THE HARVARD MEDICAL SCHOOL FOR POSTDOCTORAL STUDY IN EUROPE.

The Committee on Fellowships in the Medical School has voted that the amounts awarded for stipend and travelling expenses will be determined by the specific needs of the individual.

In considering candidates for the Moseley Travelling Fellowships, the Committee will give preference to those Harvard Medical School graduates who have—

1. Already demonstrated their ability to make original contributions to knowledge.
2. Planned a program of study which in the Committee's opinion will contribute significantly to their development as teachers and scholars.
3. Clearly plan to devote themselves to careers in academic medicine and the medical sciences.

Individuals who have already attained Faculty rank at Harvard or elsewhere will not ordinarily be considered eligible for these awards.

There is no specific due date for the receipt of applications or for the beginning date of Awards except that the Committee requests that applications not be submitted more than 18 months in advance of the requested beginning date. The Committee will meet once a year in January to review all applications on file. Applicants will be notified of the decision of the Committee by January 31. The Committee may request candidates to present themselves for personal interviews.

Application forms may be obtained from, and completed applications should be returned to:

SECRETARY, COMMITTEE ON FELLOWSHIPS IN THE MEDICAL SCHOOL
HARVARD MEDICAL SCHOOL
25 SHATTUCK STREET, BOSTON, MASSACHUSETTS 02115

New Tool for Medical Care Delivery Systems

THE Beth Israel Hospital's participation in the delivery of medical care in the surrounding community is manifest by direct service to various groups such as the Maternal and Infant Care Program at the Dimock Community Health Center and the Boston Model Cities Area II Health Program.

In addition to direct service programs, the Beth Israel Hospital is striving to extend its influence in medical care delivery in two ways: by developing relations with a large number of communities as a participant in their medical care programs; and by developing new tools to improve the efficiency and effectiveness of ambulatory care delivery. An approach to the first is described in an article authored by Howard H. Hiatt '48, "Medical Care for Northbridge: A Model For Teaching Hospital-Community Interaction" soon to be published in the *New England Journal of Medicine*. The second approach — the development of new options and tools for ambulatory care delivery — is the subject of this article.

The shortage of physicians and their maldistribution in location and type of practice have been well documented. In an effort to meet this shortage, innovative and potentially valuable programs have been initiated to train nurses and discharged medical corpsmen as physicians' assistants. The prospect of meeting the potential demand for these new categories of medical workers is limited by manpower supply especially in the case of nurses, whose retraining will accentuate already existing shortages. Consequently, other solutions to the "doctor shortage" must be sought.

New tools to aid in the delivery of ambulatory medical care are cur-

rently being developed, tested, and evaluated at the Beth Israel Hospital in a partnership project with M.I.T.'s Lincoln Laboratory. This work is based on the conviction that a large number of patient-physician encounters do not require the full battery of physician skills, and that the medical content of many encounters can be pre-specified in detail. When so formatted, most, if not all, of the essential observations and activities of a patient visit can be carried out by health workers who do not require a high level of medical training. Our work is devoted to making such manpower substitution possible.

Several automated protocols are now operating at Beth Israel Hospital. Each protocol guides a health worker in the collection of historical, physical examination, and laboratory data from a patient. The data collection process proceeds under computer control with questions asked and tests ordered depending upon prior responses and/or test results. Therefore, the health worker

need not memorize this information. Items of physical examination in the protocol are restricted to those that can reasonably be taught and performed by non-physicians. The health worker need not have extensive medical background. It is more important that he or she be a warm individual who relates well to people.

Protocols are presently being developed to assist both in the management of chronic disease and in the workup of new presenting complaints. Each protocol focuses on the specific reason for the patient visit which, in turn, implies a body of appropriate data to be collected. Three of the protocols are operational: one for the management of patients with hypertension, one for the management of patients with diabetes, and one for the workup of patients with abdominal discomfort.

Our primary objectives in developing these protocols are to permit the saving of patient-physician visits, while providing high quality medical care. This must be accomplished at low cost and to the satisfaction of patient and physician. Secondary benefits include the saving of physician's time during those encounters requiring his attention; a legible, organized record of the encounter; an opportunity for on-the-case education of patient and physician; a dynamic data base for certain clinical research; and a means of rapidly disseminating new medical information. Regardless of the worthiness of these secondary benefits, we believe that the system must eventually be judged on its ability to save patient-physician encounters.

The program will now be described in terms of a fictitious patient's encounter with the system,



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followed by a brief discussion of certain non-medical considerations.

CHRONIC DISEASE MANAGEMENT

Mr. G, a 63-year-old hypertensive under medical management for a number of years, visits his physician every three months. A year ago the physician stated that Mr. G's hypertension was stable and under control. His physician scheduled his next visit in six months with these instructions: "Just to be sure, I want you to return not to me, but to my aide in three months for some routine questioning and laboratory tests. I will carefully review all the information the aide collects. Although I expect everything to be in good order, I will be in touch with you if I have any reservations."

Mr. G saw the aide three months later, and, as the physician predicted, everything was in order. Since that time Mr. G has alternated visits to the physician and to the aide.

In preparation for an aide encounter, Mr. G's physician checks a computer-generated personalization sheet from the latest encounter that will be used to guide the aide's questions and actions. He verifies the medications and dosages that are prescribed for Mr. G. He finds the blood pressure limits he had previously specified as his control limits still appropriate. No new diagnoses have been made or medications added that would alter management. Mr. G was moderately different from other patients in that he had no other chronic diseases under active management; if he had two or more chronic diseases whose management interacted — diabetes and hypertension — the procedures would have been handled in concert to avoid duplication of questions

and to consider the effects of interacting medications and disease processes.

Prior to Mr. G's visit, the aide prepared an extension to the personalization sheet which includes previous test dates and results. In addition, this extension may include additional data from prior visits such as weight, presence of ankle edema, etc.. Just prior to his appointment time the aide manually enters this information into the computer. We do not now propose centralized record storage in the computer which supports the automated system. Records would be stored locally in all locations where medical care is delivered. The patient's record might be stored in a tape cassette with his normal medical record. The cassette would then be entered into the computer and the data appropriate to the hypertensive visit extracted.

During the aide visit, the information sought of Mr. G focuses on whether his hypertension has gone out of control as evidenced by blood-pressure measurements taken during his visit, or as evidenced symptomatically between visits; whether Mr. G has begun to exhibit any evidence of the complications of hypertension; whether any of his medications are causing side effects; whether he is taking his medications as prescribed; and finally whether he is exhibiting any other significant medical symptoms. Certain techniques are employed to determine whether any of these conditions exist. They are to question the patient specifically about each attribute, branching to obtain greater elaboration if any positive responses are evoked; to do simple physical examinations appropriate to the skill level of the aide; and to request laboratory tests dependent on the time-lapse since the last test or dependent upon the patient's symptomatic responses, age, prior diagnoses, or even dependent upon the outcome of currently ordered tests. The contingent nature of many of these tests and questions seem to make linear paper questionnaires

inappropriate. However, there may be chronic diseases in which paper questionnaires are adequate and if so, they will be used.

At his option, Mr. G may elect to respond to all of the questions without help, or he can call for assistance on particular questions, or, if he has reading or language problems, he may ask the aide to act as an intermediary. The encounter for a single chronic disease should take about 30 minutes at normal reading and response speeds. The number of questions asked is dependent on the number of positive replies made. Patients with several chronic diseases under management, slow readers, slow responders, or multiple positive responses will take longer.

The experience of others indicates that about 95 percent of patients have no objection to this type of questioning even if it is done by machine or by card-sorting. A number of patients remark on the completeness of the questioning. Patients seem to respond more freely to sexual questions or questions about suicide if asked by the machine rather than directly by a physician.

When the questionnaire is complete, the aide does a simple physical examination on Mr. G for pulse rate and regularity, temperature, pedal edema, blood pressure, etc. Other, more complex items of physical examination such as auscultation and percussion, are currently omitted and will be performed by the physician when the patient visits him.

After receiving the results of the questionnaire and physical examination, the computer responds with a list of laboratory tests to be ordered. Depending on the laboratory capabilities of the medical setting, these may be ordered for rapid or later entry into the machine.

Finally, the patient is asked, "Is there any other information you would like the doctor to know?" The patient response is entered as a typewritten reply by the aide.

The medical setting for Mr. G's

check-up need not be a private physician's office. It could be a neighborhood health center or a rural clinic remote from the physician's office. Data is transmitted automatically from one location to another over telephone lines.

The entire body of visit data is now processed "automatically" — pre-determined action or referral rules are applied to the data. All patient-aide encounters have one of four outcomes:

I: The "immediate" outcome (*I*) refers to a life-threatening condition that requires immediate attention. If the setting is that of a rural center where immediate care is not at hand, it warrants an ambulance or taxi trip to a medical care site. This should be extremely rare, because the patient has been well enough to keep his scheduled appointment.

T: The "today" outcome is for a detected condition that should be reviewed by the physician within eight hours; the patient is asked to remain while the physician is contacted.

E: The "elective" outcome indicates a condition that requires a physician's attention, but an overnight delay is acceptable. If a physician is available, the patient may be seen on that day; otherwise, a later appointment is made.

N: The "no referral" outcome implies that no condition requiring referral to a physician has been identified (either no positives have been evoked or the positive responses relate to a non-threatening condition). In this case the patient is sent home and the record of the encounter is sent to the physician for his review. Hopefully, a substantial fraction of protocol visits will have "no referral" outcomes. "Elective" and "no referral" outcomes may require a greater depth of questioning and testing because the physician will decide from the encounter record whether and when to call the patient back, or what further tests to order prior to making that decision. The "immediate" and "today" outcomes require less information to be collected because the physician will presently see the patient. Not enough



Computer

data has yet been collected to make reliable estimates of the patient-physician visits that such a system might save, because during the experimental phase, each patient is seen by the physician and the protocol outcome verified.

The computer - generated - record of the encounter is delivered to the physician for his review and action.

A typical chronic disease management protocol requires about two or three months to develop to the point of initial on-line computer operation. This estimate is based on the experience of having physician-engineer teams develop hypertension, diabetes, and chronic lung disease management protocols. After these protocols have been initially defined by the developing team, it has been extremely helpful to have these reviewed by a group of peers from a different medical environment. As might be predicted, there are areas of disagreement, some of which will be adjudicated by gathering further experimental data. A protocol will disseminate innovations in medical practice quickly. In contrast, the current education-by-apprenticeship technique propagates slowly.

The protocol put to Mr. G will have gone through several iterations. Questions can be phrased in languages other than English or in

a local dialect. A great deal of care must be given to the phrasing. A Missouri group reported 11 percent error rate in response to, "Are you male or female?", that dropped to a small error when the question was re-phrased, "Are you a man or woman?"

In sum, the development and validation of a protocol is not a trivial task. A manual has been prepared for protocol development teams. A dictionary has been created that defines medical attributes in terms of the questions asked, the sequence in which they will be asked, and the printouts provided to the physician for all possible combinations of responses. The addition of new protocols will require proportionally decreasing effort due to the availability of the common attributes.

THE NEW PRESENTING COMPLAINT

On some occasion during Mr. G's chronic disease management visit he might raise other medical questions that trouble him. Alternatively, he might present with a new complaint seeking medical advice. The first decision is whether the patient should be referred immediately for emergency medical care, or whether he is capable of responding to a presenting complaint workup.

This emergency/non-emergency

triage decision is made daily by doctors' receptionists and other untrained personnel with little or no formal training. A set of formal instructions have been prepared for use by non-medical personnel and are being tested in the Beth Israel Hospital Emergency Ward. The patient is asked by a health worker for his complaint. The complaint is located in a cross-referenced index. The index entry includes simple questions and signs that differentiate emergency and non-emergency conditions.

If the patient is judged capable of completing a half-hour workup, the health worker is asked to make a judgment about the most appropriate workup. Early experiments on 121 patients indicated that 114 would have been directed to the same workup later selected by the attending house officer. Only seven patients might have spent some time answering less appropriate questions.

The number of such workups required are reasonably small. In a study of 4000 patients, Bain and Spaulding found that ten principal complaints accounted for 70 percent of all initial presenting complaints. This was confirmed in samples totalling 1000 at Beth Israel and Massachusetts General Hospitals.

The structure of the presenting complaint workup falls into a common pattern. The opening section is an "entrance examination" designed to ensure that the patient has been routed to the appropriate protocol; depending on the outcome of these early responses, the patient could leave the workup after the "entrance examination" and be routed to another workup or designated as outside the domain of existing protocols. If the patient is acceptable, the remaining questions are posed.

The workup includes simple physical examinations and the ordering of appropriate laboratory tests for some presenting complaints. The outcome of the workup follows the I, T, E, N referral designations discussed in the previous sections.

Where medical care is immediately available, all patients would be routed directly to the physician. Under such circumstances, the utility of the presenting complaint workup would be determined primarily by the immediate availability of laboratory tests so that the results are in the physician's hands at the initial interview, hopefully advancing the medical care process by one visit.

Where laboratory test results are not immediately available, the presenting complaint workup is only of marginal utility: it saves time for the physician by allowing him to focus on the primary positive responses of the patient knowing that a review of systems has been completed.

The more interesting and useful application occurs when the medical care system is marginally existent (in rural areas) or overloaded. Presenting complaint workup by protocol could be both useful and acceptable when the patient has a choice of waiting for an appointment or being worked up with all of the appropriate laboratory tests in anticipation of the physician's visits (e.g., a circuit-riding physician in a rural community).

THE AMBULATORY CARE SERVICE AND THE MEDICAL SETTING

The function and precise specification of the Ambulatory Care Service is shaped by the medical setting. It is not intended for urban populations alone, but is available at any point of medical care delivery served by telephone.

Moreover, the knowledge and skills required of health workers are precisely defined by the medical content of the protocols, and the psychosocial aspects of chronic disease management. The training of such personnel can be done in shorter time from a larger pool than is available for the training of physicians' assistants. In fact, Ambulatory Care Service workers might represent the first step on a paraprofessional ladder.

Having stressed the medical content, it is important that the other attributes of an acceptable system

must also be met. For example, the use of conventional computer technology proves to be costly primarily because of the console at which the patient sits, and the computer time taken while the patient cogitates on his responses. To minimize these costs, a device has been built that demonstrates the feasibility of an "off-line" mechanism for presenting questions to the patient, with pictures if needed, recording his responses in computer-readable form, and selecting the next question on the basis of current and selected prior responses (e.g., do not ask questions concerning menorrhagia of males, post-menopausal females, or pre-menstrual females).

This program raises a number of additional questions that are under consideration. For example, two consultant psychiatrists are studying the methods for identifying those patients who are likely to be suffering from psychosomatic complaints. A medical sociologist is considering those factors likely to influence patient, physician, and aide acceptance of these innovations. Questions of record privacy have been considered and working solutions are proposed. These and other considerations will be the subject of future study.

ACKNOWLEDGMENTS

Numerous people have made significant contributions to this program, especially Dr. M. Rodman, M.I.T., who was an early collaborator on the concept of an ambulatory care service. Dr. H. H. Hiatt has offered guidance and encouragement. Many physicians in the Boston area have advised on the medical content of protocols. Dr. B. Winer is primarily responsible for the medical content of the hypertension protocol. In the technological area, Dr. R. M. Strong is responsible for the development of the QUARK and Dr. W. L. Black is responsible for the realization of protocols. The programming language, MUMPS, and the "driver" used to administer and print the encounter histories shown here were developed at the Laboratory for Computer Sciences, Massachusetts General Hospital.

Mission to Nepal

by Paul M. Brown '49

WHEN I left a country where two cars and a color television set are standard fare for most families and entered a place where a man has to scratch hard to obtain 80 cents for a bucket of rice for his family, I experienced a cultural shock that I shall not quickly forget.

For several years I had listened to marvelous tales from those who have travelled internationally with MEDICO or the ship *S.S. Hope*. But I had thought it impossible for me to be away from my office for the two or three months required by most of the volunteer programs since I practice surgery alone in Portland, Oregon. It was a windfall, then, when correspondence with Dr. Reeves Betz, medical director of the United Medical Missions Board, resulted in an opportunity to practice surgery for one month in a missionary hospital with an intelligent and thoughtful group of colleagues from several disciplines and countries.

As I was preparing to leave, the Biafran War interfered with my application for a visa to Nigeria, my original assignment; so, I accepted an alternative. My 14-year-old son and I departed in late March 1969 for a full month of work in Nepal, a country I had first heard of in 1957 but had not given a thought to for several years.

Since my return, a few physicians — personal friends, and acquaintances — have expressed interest in acquiring a similar exposure to an area of great medical need. Indeed, it might seem easy to dream up an ambitious plan to rush over there — or to a similar place — with a heart-lung machine team, for example, to take care of their now dying cardiac surgical patients (of whom there are many). But cultural and economic factors cause the Nepalese to hesitate in accepting more than token aid from the Western world. Although they want

help, they do not want too much help. The situation is akin to dispatching a surgical team from Mayo Clinic to Boston to help the people there manage their surgical problems.

The young medical leaders in Katmandu, the capital city of Nepal where I worked, are, indeed, men who deserve great respect and support. We should note the desire of these and other young men in medically deprived countries to travel and study in this country rather than send more physicians and hospital technicians to their countries. We could be of greatest assistance by giving those men financial help. However I myself would not be enthusiastic about subsidizing some native doctor from another part of the world without having personally witnessed the tragedy of 2000 lepers holed up in a two block compound, the high incidence of tuberculosis, children blind from smallpox, or the general lack of sanitation. Assuming others would be similarly hesitant, I think it reasonable that those of us who have seen and worked in such areas must tell our stories as sympathetically, but as firmly, as possible.

Sacred Bull in Nepal



NEPAL lies partly on the hot plains of the Indian subcontinent and partly in the young and rugged Himalayan Mountains. It stretches 500 miles from Kashmir on the west to Sikkim on the east. One hundred twenty miles wide, it reaches north to the Himalayas and Tibet, and south to the snake-infested, steaming jungle of the Tarai where tigers and elephants walk day and night. Nepal covers an area of 54,000 square miles, which is about the size of Illinois. The altitude ranges from 600 feet in the plains to 29,000 at the top of Mount Everest; Katmandu is 4700 feet high.

There is no medical college in Nepal. The total population is nearly 10 million; there are 100 nurses and 220 doctors. The doctor-patient ratio — 1/45,000 — is one of the lowest in the world. Most of the doctors have been trained in India; some have postgraduate training in Britain and the Continent under the Cumbuco Plan, which obligates them to five years in the National Health Service; they will be assigned as they are needed but may maintain a small part-time private practice. Confronted with a shortage of doctors for several years to come, the government conducts a two-year course for ancillary health workers; it includes a curriculum of elementary medicine,

minor surgery, and public health. The program annually enrolls 50 students who, upon graduation, staff the rural health centers.

The government is also sponsoring programs in malaria irradiation, smallpox immunization, and family planning (Nepal has a birth rate of 2.2 percent with a falling death rate), as well as giving support to improvement of rural medical facilities.



Patan: City Life

The United Mission to Nepal first came at the invitation of the government in 1953. Dr. Bethal Flemming opened the first mission hospital in what had been a cholera hospital. Today agricultural, technical, educational, and medical projects have brought an estimated 150 mission personnel to 15 towns and villages where they are in personal contact with 200,000 Nepalese annually. The mission offers treatment in 12 areas where Nepalese doctors are hesitant to practice — from the capital city where cars and electricity are now common to the remote mountain hamlets where people have never seen a wheel and where meager light comes from crude mustard oil lamps. Mission services range from providing a hospital with specialty wards to operating dispensaries run by nurses and



Himalayas: Contrast to urban Patan

maintaining clinics which are visited weekly by doctors who must trek in or be flown in by small aircraft. There are four permanent outlying hospitals: at Ampipal in the west and Okhaldunga in the east the hospitals have doctor-staffed dispensaries; Bhatgaon, near Katmandu, has a 20-bed hospital in open huts; and at Tansen a 70-bed hospital, staffed with surgeons, offers a regional leprosy service promoting domiciliary treatment and control of family contacts, engages in clinical research, and provides a public health service that conducts school hygiene and village sanitation programs.

In Katmandu the United Mission Medical Center is comprised of Shanta Bhawan ("palace of peace") and Serenda Bhawan for pediatrics and maternity, in total a 135-bed hospital complex begun in 1956. It has outpatient clinics, open six days a week, which treat 46,000 patients annually, of whom about 2800 require hospitalization. For ten years the hospital has operated a nursing school, directed by an American.

The hospital facility offers both private and ward accommodations. The operating room equipment is more than "just adequate"; it includes a defibrillator, an electric dermatome, a power saw, and orthopedic instruments.

Parts of the original buildings

have had to be modified for efficient medical use: the orchestra balcony in the women's surgical ward is now orthopedic storage; glass chandeliers have been removed from the wards because the patients were disturbed by them, but a hunting mural remains in the X-ray department.

The Shanta Bhawan and Serenda Bhawan are staffed with two German internists, a German pediatrician, a Scottish gynecologist, two Nepalese doctors, and one Canadian Board-certified surgeon. The sole assistant for all surgery is the very capable Nepali P. B. Rai, who served 19 years with the Seventh Gurkha Rifles. Anesthesia is administered by a well-trained Nepalese major, a volunteer worker at the hospital, who is most adept at giving endotracheal anesthesia for thoracic as well as general surgery.

I was put to work in surgery almost from the day I arrived. Although the linens are not a bright blue or green as in Western hospitals and the gauze sponges are hand-folded in off-hours by surgical nurses, surgery went smoothly. Wound infection was minimal. For religious reasons, blood for transfusions was hard to come by; careful hemostasis during the opening and closing the chest wounds was necessary. However, it was surprising how few blood transfusions were

necessary, even during such complicated procedures as thoroplasties on patients with tuberculosis.

The surgeons are so busy that often the 35 surgical beds overflow into the corridors so that three or four people must sleep on cots or directly on the floor. The Canadian surgeon performs much orthopedic surgery. Although tuberculosis of the long bones is prevalent, his main orthopedic concerns are about such cases as an elderly woman with a two-week old dislocated shoulder injury received when she was thrown from a yak, or other unusual surgical conditions such as broken legs complicated by elephantiasis or labor obstructed by 2½ inch bladder stones (a very common disorder in Nepal for some peculiar reason).

The Nepalese undergo great hardships. The winters are not warm, and many times the small, thatched, adobe-like houses are covered with snow. Tuberculosis in both bones and lungs is the major medical problem. A recent tuberculin testing program revealed positive reaction in 17.5 percent of those tested under five years old, 51.3 percent of those from 11 to 15 years, and 87.8 percent of those over 41 years old. The frequency of huge goiters is appalling. A public health survey reported by an Indian physician while I was there indicated an 85 percent incidence of endemic goiter in school children of ages six through 15 in one area. Cholera, plague, leprosy, tetanus, and elephantiasis are common. My son and two 14-year-old twin girls, the daughters of the Canadian surgeon, ran through a spot check of 300 consecutive hospital charts, which revealed ascariasis, pinworms, tapeworms, or hookworms in 65 percent of the patients.

My particular role there was to perform thoracic surgery on patients with bronchiectasis and tuberculosis. It was even necessary to perform thoracoplasties on occasion in order to preclude exsanguination from hemoptysis. One little child presented a 20-centimeter balloon-like

cold abscess in the mediastinum, which was drained adequately by posterior rib resection and extra-pleural approach. Congenital abnormalities, including imperforated anus, cleft palate, and heart disorders were quite common. Our 135-bed hospital was the Mayo Clinic of Nepal.



Nepalese Woman

Sanitation is poor throughout the country. Although tattoos and gold rings for the nose and ears are common female adornments and the colorful saris are beautiful, these adornments may be next to skin that has not been washed for six months. The burden for the hospital personnel and engineering staff is immense: all water — whether for washing or for drinking — must be boiled. Even so, almost all the Western doctors suffer from severe gastritis caused by one of several local pathogens. I personally lost 25 pounds the hard way — secondary to a bout of amebic dysentery.

The sheer effort of getting to a medical facility and paying for hospitalization imposes further hardship on the people. A number of patients I talked to through an interpreter admitted that they had walked four to six days to reach the hospital. In one instance, the patient had walked eight days! In another, a man was carried in a homemade sedan chair by his two brothers for four days, only to be turned away because the hospital was full. Most

people are illiterate (thumb-print signatures are routine) and pathetically poor (\$15.00 a month is a good wage). Hence, bus fare — buses of a sort are available in Katmandu — cannot be spared for an unnecessary visit to the clinic. Furthermore, hospital rates are rising. A ward bed now costs about 30 cents a day without food. Rates usually are exclusive of food because, being Hindu, the Nepalese believe that any food touched and prepared by a "Western" is untouchable. Normally a relative comes to the hospital compound with the patient and camps nearby. Often the Setye (friend or relative) sleeps in the hospital under the patient's bed. On a small hibachi-like stove he cooks meals of rice, sprouts, vegetables, and goat meat in the Hindu manner for the patient.



Lepers in Nepal

PERHAPS the greatest impression made on me during this trip was from the unforgivable cruelty manifested in the management of the government leprosarium. This last phase is a glorification of a terrible hell-hole housing 2000 lepers. As many as three or four families live in a 12-by-20 foot mud-walled room with a common latrine out in the hallway. I saw 20-year-old mothers holding babies up to their breasts with fingerless hands. I saw five-

and six-year-old children with lepromatous chances in their cheeks. The only person working with these people who had any knowledge of the disease at all was a Danish nurse who had contracted severe pulmonary tuberculosis and had left by the time I arrived. Because the Nepalese government doctors refuse to care for these people, the lepers are left in this single small crowded compound without medical care of any sort: they have neither the attention of a doctor or nurse, nor the medicines to treat this now preventable disease. It seems incredible that man, who has walked on the moon, can allow this situation to exist.

The Nepalese are not far removed from a tribal, isolated manner of living; until 1952, outsiders, especially white men, were unwelcome. Consequently, many primitive methods and attitudes still exist.

Trade between Tibet and Nepal for thousands of years has been centered primarily around the salt barter, the direct trade or barter of bullock carts of salt for bullock carts of lamb or produce from the fertile valley. The farther up the mountain toward Tibet that the produce-laden carts travel, the greater the Nepalese's bargaining power, because the increased spoilage during transit reduces the amount of produce available to the Tibetans; on the other hand, if the Tibetan salt carts travel farther down into the valley, they are able to buy much more for the same amount of salt. Here is the working of a most fundamental and simple economic principle — supply and demand — from which our present complex economic system has evolved.

The peasants still use the short-handled mattock or hoe with a wooden plow for farming as their forefathers have done for centuries: there is something about the steel and metal plow, they believe, that poisons the soil. The sickle is used exclusively to reap the harvest. (Our AID and Peace Corps Programs, however, are making great progress. The farmers are learning conserva-

tion measures and better utilization of water buffalo fertilizer as well as modern fertilizers.)

In 1964 the father of the present King Mahendra broke the feudal control of the Ranas family over both the government and the people. A massive reshuffle of land ownership and a reorganization of agricultural production and marketing was effected by the Land Reform Act the next year, further limiting the Ranas' power. The current government is a combination of monarchy and democracy, which may be the form best suited for the people and conditions of Nepal. However, since the usual yardsticks of success — schools, hospitals and roads — are so scarce, it is difficult to determine objectively whether the system is in fact beneficial. (If inflation is a



Hindu Temples

yardstick, then the system is quite successful: whereas a bucket of rice cost about four rupees — 40 cents — three years ago, it now costs eight).

Nepal experiences pressures from some external forces, also. When the Red Chinese occupied Tibet in 1950, Nepal lost a source of revenue, a tribute which it had exacted from Tibet from wars long since past. China now lays claim to the entire Mount Everest massif as well as some of the inter-Himalayan valleys, thus curtailing travel and mountain climbing from the south. Furthermore, China has built a handsome military highway from Lhasa to Katmandu. The Indians also have a

road under construction into the capital city. Not only does Nepal suffer from this north-south tug of war, but it also has seen the establishment of diplomatic or religious missions by the United States, Italy, the Soviet Union, Switzerland, Great Britain, France, and the Scandinavian countries.

The Nepalese population, 95 percent illiterate, have difficulty comprehending sophisticated warfare. Aristocrats and intelligent government officials are pessimistic



Serenity of Anna Purna, Nepal

about Nepal's future: they believe that in time Nepal will be swallowed up by Red China. But there are those who are interested in the struggle for a better life meanwhile. In spite of the general lack of literacy, transportation, and communication, the Nepalese people overall remain serene and self-assured, probably because they have never been a colony and therefore have not been burdened with that inferiority complex that makes intercourse with so many new nations difficult.

Under these circumstances it is perhaps wiser for outside countries like our own to facilitate the education of the Nepalese and other people in similar situations than to send out personnel to them. If we assist some individuals in acquiring the abilities — the medical knowledge and skills — to help their own countrymen, perhaps we are doing them a far greater service than if we merely send a continuing stream of temporary-duty specialists over there.

GIANTS IN THE EARTH

Dr. Curran's excellent article regarding Charles W. Eliot's contributions to medical education and medical progress, in which he suggests that President Eliot was one of the greatest, if not the greatest man Harvard ever produced, reminds one of the fourth verse of Chapter 6 in Genesis — "There were giants in the earth in those days." Just what the author of this majestic passage had in mind in respect to the origin and progress of man is open to question today, but he continued with an allusion to "mighty men which were of old, men of renown," and then went on to Noah, chosen not too successfully to establish a new and better line of men to replace those who had become so wicked.

Man, however, wise and foolish, brilliant and stupid, compassionate and cruel, saintly and wicked, is the best base we have on which to construct an essentially human world, and we must make the most of our material. Fortunately, we have seeded through the generations our shepherds to lead the way or point it out, to keep the main body of the herd in line and eventually, perhaps, to persuade a working majority to enter the fold.

Eliot, having taught chemistry at Harvard Medical School in his early years, was aware of the educational deficiencies that existed and the poor quality of some of the material that required teaching. He found the students ill-prepared "rowdy and illiterate" as Dickens had given a preview of in London in "Pickwick Papers," 30 years before. Medical education was altogether in need of being turned upside down like a flapjack, as Holmes described the treatment that the young president soon gave it. In the first years of his

presidency, Eliot was initiating and Harvard Medical School was soon setting an example for the reforms that Flexner recommended in his report and that Edsall promoted so successfully 50 years ago when he became dean.

ALL QUIET ON THE EASTERN FRONT?

That a Peace Movement once so active could quickly become so feeble should concern all of us in the health profession.

At a time when money is allegedly too scarce to support properly health services, medical schools and research, it is being spent lavishly in Indochina. To speak or act against the continuation of this war now seems tedious and trite; poverty, pollution, population are in. Yet, our lassitude furthers a war that does little for the health needs of our nation, to say nothing of its moral standards.

Considerations of civilian casualties, ecological imbalance, and a disrupted social structure of an undeveloped and weary country have not halted the war. Are we really certain that it will stop soon or will it merely change its facade to persist and to devour our resources when this nation has none to spare?

Throughout history, human beings have displayed a greater ability to heed self-interest than more distant virtues of compassion and generosity. Perhaps now, the argument to cease war-making should be made on selfish, albeit simplistic, grounds: it is bad for our health.

ROBERT M. GOLDWYN '56

REGARDING THE CONSTITUTION

That youth contributed dynamically to the vitality of traditional organizations is an obvious lesson of the past decade. Increasing contact with students and nascent alumni has convinced your officers and councillors of the need to recast the election procedure whereby the Council is chosen to assure representation for each generation of constituents. Hopefully, young alumni will gain an opportunity for expression and become involved in the affairs of the School early in their careers.

The slates of candidates that have appeared on the ballot in recent years have been chosen with an intent to broaden the age span as is typified by the 1971 ballot, but prestigious elders usually prevail, and alumni representation continues skewed as can be seen in Table I. During 1967-69 all Councillors were alumni of more than 25 years standing. Indeed, during the past decade, no alumnus of less than 15 years standing was elected in New England; outside of New England; or as runner-up, garnered enough votes to be elected at large.

By restricting the contest for Councillor to specific pentads of classes, proper representation of all alumni can be achieved. The amendment to By-Law II describes the simple device of presenting the candidates from a span of five classes on the ballot so that one will be elected from that age group. Eventually representation shown in Table II will emerge.

As a class advances from one pentad to the next, its members once again come into focus for nomination. Indeed the scheme intensifies the nominating committee's search for promising candidates because only one-third of the alumni become

eligible each year.

The election of a zealous worker in alumni activities to the Council each year, regardless of class, should stimulate and accelerate programs of mutual interest to the School and its alumni.

The amendment to By-Law I provides for election of officers by competitive ballot — a visibly democratic procedure.

Your Alumni Council urges you to vote in favor of both amendments

to the constitution. A representative Council will bring the alumni in closer touch with the School and its problems; it will provide a valid context for alumni opinion; it will involve the profession in the affairs of the School, and encourage both the alumni and School to more responsive interaction.

CARL W. WALTER '32

Treasurer

Harvard Medical
Alumni Association

REGARDING THE CONSTITUTION

The training of a physician or surgeon involves several years of postdoctoral training in a hospital. Harvard Medical School assumes responsibility, through members of the faculty, for the choice of interns, residents, and research and clinical fellows, and in addition, all of those in the Harvard-affiliated hospitals hold Harvard Corporation appointments with stipends or salaries derived from hospital or Medical School or both. The tenure of such Harvard Corporation appointments, during which the individuals are under close supervision and training by members of the faculty of HMS, may vary from one to several years, and not infrequently is as long as, or longer than, that of candidates for the M.D. degree.

Although these individuals now quite properly consider their loyalties primarily to the hospital where they are trained, it is the affiliation with HMS that gives it at least equal value and prestige, and loyalty to the School should be fostered. Moreover, these individuals have, and take advantage of, the educational facilities of the entire Medical School. They are also involved in teaching undergraduates and in the educational policies of the school, directly or indirectly. Their involvement should therefore, be fostered for future ideas and developments that will benefit all medical education at HMS, even after they leave the Harvard orbit. Their continued involvement in HMS can and should be coordinated with that of the HMS-affiliated hospitals in which they received their training.

MAXWELL FINLAND '26
President-Elect
Harvard Medical
Alumni Association

HISTORIC DISTRIBUTION OF COUNCILLORS

Pentads* Postgraduation

Academic Year	1	2	3	4	5	6	7	8	9
62				×	×	×			
63			×	×	×				
64				×		×			
65				×	×	×			×
66		×	×			×			
67					xxx				
68						xx	xx		
69						x	xx		
70		×	×		×				

Proposed Article II — Amended

Pentads* Postgraduation

Academic Year	1	2	3	4	5	6	Outstanding Service
72	×			×			×
73		×			×		×
74			×			×	×
75	×			×			×
76		×			×		×
77			×			×	×
78	×			×			×
79		×			×		×
80			×			×	×

* Groups of five consecutive classes

Constitution of the Harvard Medical Alumni Association

AS AMENDED MAY 31, 1968

ARTICLE I

The name of this Association shall be the "Harvard Medical Alumni Association."

ARTICLE II

The objects of this Association shall be to advance the cause of medical education, to promote the interests and increase the usefulness of the Harvard Medical School, and to promote acquaintance and good fellowship among the members of the Association.

ARTICLE III

Section 1. There shall be two classes of members—alumni members and honorary members.

Section 2. Each alumnus of the Harvard Medical School shall become *ipso facto* a member of the Association. Each alumnus shall be so notified at the time of the graduation of his class.

Section 3. There shall be no fixed dues, but each year a request for voluntary subscriptions shall be sent to all alumni.

Section 4. All physicians who have received any honorary degree from Harvard University shall become *ipso facto* honorary members of the Association. Honorary members may also be elected by the Council. All members of the Faculty of the Harvard Medical School shall be considered, during their term of service honorary members of the Harvard Medical Alumni Association. Honorary members shall not vote or hold office.

Section 5. By unanimous vote of the Council, any member may be dropped.

ARTICLE IV

Section 1. The Officers of the Association shall be a President, a President-elect, a Vice-President, a Secretary and a Treasurer.

Section 2. The President and President-elect shall be elected annually. The Vice-President, Secretary and Treasurer shall be elected for the term of three years. (See By-Law I).

ARTICLE V

Section 1. The Council of the Association shall consist of nine elected Councillors and, *ex officiis*, the officers of the Association, the Alumni Director, the Editor of the *Bulletin*, and the immediate past-President.

Section 2. Three councillors shall be elected by mail ballot annually for a term of three years. (See By-Law II).

Section 3. The new officers and councillors shall take office on July 1st following their election.

Section 4. Vacancies occurring in any of the offices or in the membership of the Council before the expiration of the respective term shall be filled by the Council for that term.

ARTICLE VI

Section 1. The annual meeting of the Association shall be held in Boston, Massachusetts, in conjunction with Alumni Day of the Medical School.

Section 2. The President or the Council shall have the power to fix the number of members of the Association necessary to constitute a quorum for the transaction of any and all business.

Section 3. The President, the Secretary and the Treasurer shall each submit to the Association, at its annual meeting, a report for the preceding fiscal year.

ARTICLE VII

The President or the Council shall have the power to call a special meeting of the Association at any time, provided that at least two weeks' previous notice be given to all members of the Association.

ARTICLE VIII

Section 1. The executive power of the Association shall be vested in the Council, subject to the control and direction of the Association.

Section 2. The Council shall have the power to appoint, from time to time, one or more corresponding secretaries to promote in their respective localities the objects and interests of the Association.

Section 3. The Council shall hold three stated meetings each year, one in the fall, one in the winter, and one just preceding the annual meeting of the Association.

Section 4. The President may postpone or cancel stated meetings or call additional meetings as may seem expedient, with the approval of the Council.

Section 5. For purposes of transacting business at all meetings of the Council, nine members thereof shall constitute a quorum.

Section 6. The relations between the Alumni Association and the Harvard Medical School shall be by agreement between the Council or its Director and the Dean.

ARTICLE IX

Section 1. There shall be a Director of Alumni Relations who shall be appointed by the Council after it has considered the recommendations of a nominating committee consisting of the Dean of the Harvard Medical School or his nominee, the Secretary of the Association, and four Councilors appointed by the President. The Director shall be a physician and preferably a graduate of the Harvard Medical School. He shall hold office for a term of five years and until his successor is appointed.

Section 2. The Director of Alumni Relations shall administer the affairs of the Association, subject to the control and direction of the Council.

Section 3. The Director shall be responsible for the solicitation of Alumni annual giving program.

Section 4. The Director shall be responsible for arranging Alumni reunions, Alumni events, national Alumni conferences, arranging for speakers at Medical School Alumni functions, and shall confer directly with the Dean.

Section 5. The Director shall be responsible for liaison with the Associated Harvard Alumni on matters relating to the Medical School Alumni.

Section 6. The annual budget of the Alumni Association including the expenses of the *Bulletin* is to be prepared by the Director of the Alumni Association in collaboration with the Treasurer of the Alumni Association. It is then to be submitted to the Council and to the Dean of the Harvard Medical School for approval.

ARTICLE X

Section 1. The *Bulletin* of the Harvard Medical Alumni Association shall be the official organ of the Association. The *Bulletin* shall be sponsored by the Association and shall be published for the purpose of furthering the interests of the Association and its relations with the Medical School.

Section 2. The Editor of the *Bulletin* shall be appointed to that office by the President subject to approval by the Council. He shall hold office for a period of five years.

Section 3. The Business Manager of the *Bulletin* shall be appointed by the Editor of the *Bulletin* subject to approval by the Council.

ARTICLE XI

The Constitution may be amended by a majority vote of the members of the Association present at the annual meeting, or at any special meeting called for the purpose, notice of such amendment having been given in the call for the meeting.

BY-LAW I.

A Committee of three members to nominate officers shall be appointed by the President of the Association and confirmed by the Council at its first meeting in the fall of each year. This Committee shall submit to the Council, before January first of the succeeding calendar year, a list of names of one or more candidates for each office to be filled during the ensuing year. The candidates for office so nominated shall be selected from this list by the Council and shall be proposed for election at the next annual meeting of the Association.

BY-LAW II.

Three Councillors shall be elected annually to hold office for three years and to fill the places of those whose terms of office shall have expired.

For this purpose a committee of five members to nominate Councillors shall be appointed by the President of the Association and confirmed by the Council at its first meeting in the fall of each year. This committee shall submit to the Council before the first of January the names of at least six members of the Association eligible for election to the Council. Three of these nominees shall reside in New England.

The names of the candidates shall be placed upon the official ballot in chronological order indicating their residence and the years of their classes at the Harvard Medical School. Upon the face of the ballot, there shall be a statement of the number of Councillors to be elected, a note to the effect that each is to be elected for a term of three years, and such further information or instruction to the voter as may be judged necessary. Space shall be provided for writing in the names of other nominees.

The Secretary of the Association shall on or before the first of April in each year, mail to each member of the Harvard Medical Alumni Association this official ballot. Each member of the Association may prepare his ballot, sign the same with his name, and return the ballot to the office of the Association.

Ballots so prepared and signed, and received at the Office of the Association prior to twelve o'clock noon on the Friday preceding the annual meeting of the Association, shall be counted for the election of three members of the Council for the ensuing three years. None but official ballots shall be received or counted. Ballots shall be counted and cast only for those candidates against whose names crosses have been marked. If more names are duly marked in the manner required than there are Councillors to be elected, the entire ballot shall be set aside and not counted.

The nominee residing in New England who receives the highest number of votes, the nominee residing outside of New England who receives the highest number of votes and the nominee irrespective of where he lives who receives the next highest number of votes to either of the first two shall be elected members of the Council for the ensuing three years, and their names shall be announced at the annual meeting of the Association.

PROPOSED AMENDMENTS TO THE CONSTITUTION OF THE HARVARD MEDICAL ALUMNI ASSOCIATION

ARTICLE III

Section 1. There shall be three classes of members: alumni members, associate members, and honorary members.

Section 2. Each alumnus of the Harvard Medical School shall become *ipso facto* a member of the Association upon graduation.

Section 3. All physicians who have received any honorary degree from Harvard University shall become *ipso facto* honorary members of the Association. Honorary members may also be elected by the Council. All members of the Faculty of the Harvard Medical School shall be considered, during their term of service honorary members of the Harvard Medical Alumni Association.

Section 4. Associate members shall include:

- a) All students beginning the second year.
- b) All physicians who have held a Harvard Corporation appointment in the Medical School or at one of its affiliated hospitals for at least one year.
- c) Anyone the Alumni Council deems worthy of such distinction by virtue of service to the School.

Section 5. Each new member shall be notified when his name is entered upon the alumni rolls.

Section 6. Only alumni members shall be eligible to vote or hold office.

Section 7. There shall be no fixed dues, but each year a request for voluntary subscriptions shall be sent to all alumni.

Section 8. By unanimous vote of the Council, any member may be dropped.

BY-LAW I.

A Committee of three members to nominate officers shall be appointed by the President of the Association and confirmed by the Council at its first meeting in the fall of each year. This Committee shall submit to the Council, before January first of the succeeding calendar year, a list of names of two or more candidates for each office to be filled during the ensuing year. The candidate for each office so nominated shall be selected from this list by the Council and shall be proposed for election.

BY-LAW II.

Three Councillors shall be elected annually to hold office for three years and to fill the places of those whose terms of office shall have expired.

For this purpose a committee of five members to nominate Councillors shall be appointed by the President of the Association and confirmed by the Council at its first meeting in the fall of each year. This committee shall submit to the Council before the first of January the names of at least six members of the Association eligible for election to the Council. Three of these nominees shall reside in New England.

To gain representation from classes from each pentad following graduation, at least two candidates for election shall be nominated triennially from first and fourth pentad classes. During successive years, at least two candidates shall be nominated from the second and fifth and the third and sixth pentads respectively.

Each year at least two additional candidates shall be nominated from among alumni who have been outstanding in their service to the association regardless of their year of graduation.

The names of the candidates shall be placed upon the official ballot in chronological order indicating their residence and the years of their classes at the Harvard Medical School. Upon the face of the ballot there shall be a statement that each Councillor is to be elected to a term of three years and boxes to permit choice of one Councillor to represent each pentad and one Councillor to represent alumni at large. Space shall be provided for writing in the names of other nominees in each category.

The Secretary of the Association shall on or before the first of April in each year, mail to each member of the Harvard Medical Alumni Association this official ballot. Each member of the Association may prepare his ballot, sign the same with his name, and return the ballot to the office of the Association.

Ballots so prepared and signed, and received at the Office of the Association prior to twelve o'clock noon on the Friday preceding the annual meeting of the Association, shall be counted for the election of three members of the Council for the ensuing three years. None but official ballots shall be received or counted. Ballots shall be counted and cast only for those candidates against whose names crosses have been marked. If more names are duly marked in the manner required than there are Councillors to be elected, the entire ballot shall be set aside and not counted.



Waterbuck

The game animals of East Africa are a part of our natural heritage that we hope we can preserve for the enjoyment of succeeding generations. Many species are now less threatened by hunters and poachers, than they are by increasing settlement of the African savannah, by an expanding human population, and by competition with domestic cattle for forage. Tens of thousands of square miles are now seriously overgrazed by cattle herded by nomadic tribes. In years when the long rains fail, great numbers of cattle and game animals die because there is not enough grass for all. It is to be hoped that enlightened wildlife conservation and range management can be rapidly established in these developing nations and left free of political corruption. Only in this way can the large herds of eland, oryx, wildebeest, zebra, and gazelles be maintained.

These photographs were taken in Kenya and Uganda by Don W. Fawcett '42, Hersey Professor of Anatomy. Dr. Fawcett went to Africa to lecture on cell biology to medical and veterinary students at the University of East Africa, and to collect biological materials for his research on comparative aspects of mammalian reproduction.

Masai Giraffe



African Elephant



Hippopotamus





Cape Buffalo with Cattle Egrets



Young Lioness

GAME ANIMALS OF AFRICA



Grevy Zebras



Cheetah

**Black
Rhinoceros**



VOTE
for
THREE CANDIDATES
for
HARVARD MEDICAL ALUMNI COUNCIL

1971-1974



RETURN BALLOT TO: Alumni Office

Harvard Medical School, 25 Shattuck Street

Boston Massachusetts 02115

BY 12:00 NOON

FRIDAY, MAY 28, 1971

JOHN WEBSTER KIRKLIN '42

Birmingham, Alabama

B.A. (University of Minnesota) 1938

- 1942-1943 Intern, Hospital of the University of Pennsylvania
1943-1950 Resident in Surgery to First Assistant in Surgery, Mayo Clinic
Clinic and Mayo Graduate School of Medicine
1950-1966 Surgeon, Professor of Surgery, and Chairman of the Department
of Surgery, Mayo Clinic and Mayo Graduate School of Medicine
1966- Charles and Faye Kerner Professor and Chairman of the De-
partment of Surgery, University of Alabama Medical College
1966- Surgeon-in-Chief, University of Alabama Hospitals and Clinics
Member: American College of Surgeons; American Surgical Association; So-
ciety of University Surgeons; American Association of University Professors;
Society for Thoracic Surgeons; Royal Society of Medicine; New York Acad-
emy of Sciences.



DONALD EMERSON McLEAN '43A

Winchester, Massachusetts

A.B. (Harvard College) 1939

- 1943-1944 Intern and Assistant Resident in Medicine, Children's Hospital
Medical Center
1944-1946 U.S. Army Medical Corps
1946-1947 Assistant Resident Pediatric Neurologist, Neurological Institute
of New York
1947-1948 Fellow in Pediatrics and Resident in Medicine, C.H.M.C.
1948-1956 Assistant Physician, Adolescent Unit, C.H.M.C.
1948- Pediatrician, Winchester, Massachusetts
1958-1970 Chief of Pediatrics, Winchester Hospital

Diplomate: American Board of Pediatrics; Fellow: American Academy of
Pediatrics; Chairman, Committee of Drug Abuse, Winchester; Member: New
England Pediatric Society.



ROMAN WILLIAM DeSANCTIS '55

Winchester, Massachusetts

B.S. (University of Arizona) 1951

- 1955-1956 Intern in Medicine, Massachusetts General Hospital
1956-1958 Lieutenant, U.S. Naval Medical Corps
1958-1962 Assistant Resident to Clinical Fellow in Medicine, M.G.H.
1960-1969 Teaching Fellow to Assistant Clinical Professor of Medicine,
H.M.S.
1962-1968 Assistant in Medicine to Assistant Physician, M.G.H.
1968- Director, Coronary Care Unit, M.G.H.
1969- Associate Clinical Professor of Medicine, H.M.S.

Fellow: American College of Physicians, American College of Cardiology;
Member: American Heart Association; Aesculapian Club; Phi Kappa Phi;
Phi Beta Kappa.





ROBERT MALCOLM GOLDWYN '56

Brookline, Massachusetts

A.B. (Harvard College) 1952

- 1956-1961 Intern and Resident in Surgery, Peter Bent Brigham Hospital
1961 Harvey Cushing Fellow in Surgery, P.B.B.H.
1961-1963 Teaching Fellow and Resident in Plastic Surgery, University of Pittsburgh Medical Center
1963-1970 Instructor to Clinical Associate in Surgery, H.M.S.
1964- Director, Industrial Accident Clinic, P.B.B.H.
1970 Assistant Clinical Professor of Surgery, H.M.S.

Diplomate: American Board of Surgery, American Board of Plastic and Reconstructive Surgery; Fellow: American College of Surgeons, Academy of Compensation Medicine; Member: Plastic Surgery Research Council; American Association of Plastic Surgeons; New York Academy of Sciences; Physicians for Social Responsibility.

JOHN WEIR SINGLETON '57

Denver, Colorado

A.B. (Yale University) 1953

- 1957-1959 Medical House Staff, Massachusetts General Hospital
1959-1961 Clinical Associate, Gastrointestinal Unit, National Institute of Arthritis and Metabolic Diseases
1961-1962 Medical House Staff, M.G.H.
1962-1965 NIH Special Fellow, Gastroenterology Division, University of Colorado Medical Center
1965-1968 Practice of Gastroenterology, Denver
1968- Assistant Professor of Medicine, University of Colorado Medical Center

Member: American Gastroenterological Association; American College of Physicians; American Society of Internal Medicine; Boylston Society.



MARTHA BRIDGE DENCKLA '62

Tenafly, New Jersey

A.B. (Bryn Mawr College) 1958

- 1962-1964 Intern and Junior Assistant Resident in Medicine, Beth Israel Hospital
1964-1966 Junior Resident to Senior Resident, Neurology, Boston Veterans Administration Hospital
1967 Senior Resident, Neurology, Georgetown University Hospital
1968- Assistant in Neurology, Columbia University College of Physicians and Surgeons
1968- Assistant Attending Neurologist, Presbyterian Hospital

Member: Bergen County Medical Society; American Academy of Aphasia; Associate Member: American Academy of Neurology.

ALONG THE PERIMETER

UNIVERSITY GOVERNANCE

A January Interim Report, "The Nature and Purposes of the University" has been issued by the recently formed Committee on Governance. The Committee, composed of representatives from all faculties, as well as students from various fields, has set down in writing without emotionalism or bias its findings on the current frustrations among students, faculty, governing bodies, and outside institutions, aimed directly at the University. The Committee has been seeking a way to alleviate these pressures and turn such heated energies toward constructive rebuilding.

The Report brings up basic questions of university involvement in the community — if and where its resources should be placed; and ends with a careful examination of the decision-making processes within — who should be making the decisions and on what criterion should they be made.

Although no specific action is proposed for any one problem, the Committee makes several points concerning the direction its members would like the University to take. They believe that it is important that the University bridge the gap between pure intellectualism and social and moral responsibilities; that decisions to be made involving the use of external resources should be based on "their relevance to the problems of our times," not on "'politicking' for petty ends"; and that "instead of dissipating its sources among a hodgepodge of lesser services initiated by outsiders, the university, through a process of individual and collective choice, would focus attention on a carefully selected set of long term problems."

A greater part of the report is devoted to the obligation the University has in acting upon student dis-

sent. The Committee recognizes the frustrations — both rational and irrational; however, it feels that the University can profitably make use of such antagonism. Consequently, there would be a purpose for allowing all concerned with the University to share in the responsibilities of decision-making, in order "to develop students' skills of deliberation and decision making as well as to enhance his capacity and willingness to assume responsibility; to provide the university with qualitatively better and more broadly conceived decisions; and to increase the uni-

versity's sense of community derived from the effective collaboration of students, faculty and administration. The issue at Harvard is to find governance procedures that provide for sharing influence and responsibility while still preserving the needed differentiation of roles."

Having presented such a discussion, the Committee now hopes for further sessions in which the varied members may find specific answers to individual problems. If understanding is developed and if action is to be taken on these issues the Committee feels that the search for answers must go on among those in the Community as well as among students, teachers, and the governing body. "Only by such a process will it be possible to infuse new structures with life and achieve 'calm rising through change and through storm.'"

MEDICAL SCHOOL GOVERNANCE

Dr. Albert H. Coons, newly-named chairman of the Harvard Medical School Committee on Governance, has issued a Memorandum and the Minutes of the January-February meetings to all members of the Harvard community. According to the Minutes, at an initial meeting January 25, it was decided that one-third of the meetings would be open and all proceedings would be available to the public in the form of Minutes.

Following the first session, the Committee began to examine in depth the function and problems in the departments of Harvard Medical School. A discussion, led by guest speakers William V. McDermott '42, head of the department of surgery at Boston City Hospital, and Dr. Don W. Fawcett, head of the department of anatomy, pointed out problems facing the clinical and pre-clinical departments respectively. Both Drs. McDermott and Fawcett presented questions concerning the office of chairmanship.

Dr. McDermott felt that when choosing the departmental chairman, more attention should be placed on

the nominee's administrative and teaching abilities as well as his research qualities, and clinical abilities. He suggested the length of office be ten to fifteen years.

Dr. Fawcett, however, felt that tenure has some advantages and disadvantages. A chairman with tenure could plan long-range goals for the entire department he said, and when a new chairman is chosen, the faculty may examine the direction in which the department is headed. In opposition to this, Dr. Fawcett pointed out that as the chairman's term lengthens, he may no longer be at the front of his field and thereby, may lose the respect of his department. Neither doctor expressed positive feelings toward an automatic rotating chairmanship.

At a subsequent meeting Dr. Manfred L. Karnovsky, chairman of the department of biological chemistry and Howard H. Hiatt '48, chairman of the department of medicine at Beth Israel Hospital, described the organization of their departments with emphasis on ideas (pro and con) of a rotating chairmanship. Dr. Karnovsky said that he favors a

rotating chairmanship in which one of the senior members assumes the position for four years. He stressed that this eliminates the high peak of activity that occurs when the new chairman takes office and the low ebb that follows as the leader nears the end of his chairmanship.

Dr. Hiatt, on the other hand expressed reservations about the rotating chairmanship. He said that a change frequently is necessary, but under the auspices of the University; and that a rotating chairmanship would be advisable only if the department is large and strong.

Having just been formed, the Committee devoted much of its attention to organizational matters, keeping in mind the desire to function efficiently with as many varied viewpoints as effectively possible. A

motion was made and passed to include representation of employees on appropriate committees.

The first open meeting on February 22, was an informative discussion led by Dean Ebert. He described in general the administrative policies carried on in the Medical School, and reminded those present that the President and Corporation of the University must approve all action taken by the Faculty of Medicine as well as all appointments and promotions. Several questions and answers followed his introduction.

The Committee is only in its initial stages, and although not able to take action, can suggest feasible changes. The *Bulletin* will continue to review the Minutes of the Governance Committee sessions in following issues.

the reference library with its past and future dictionaries. It will fill a need for a quick summary of the lives of medical men of the past and will be especially useful for its 20th century biographical accounts.

GEORGE E. GIFFORD, JR., M.D.

LETTERS

In the last issue, the *Bulletin* made several errors in Dr. Krayer's letter. Following is the corrected version.

To the Editor:

The comments of William E. Hassan, Jr., Director, Peter Bent Brigham Hospital, concerning the book by Richard Burack, M.D., *The New Handbook of Prescription Drugs* prompt me to transmit my own opinion to you and to your readers.

Dr. Burack's book is a courageous, uncompromising attempt to come to grips with a serious problem which every physician has to face, and to solve, whenever in his therapeutic endeavor he plans to use a drug. The author shows how to achieve rational treatment with drugs which are economical as well as reliable, that is, effective and as safe as possible. There is a sound emphasis in the book on the two official drug compendia, The United States Pharmacopeia and The National Formulary. In addition, Dr. Burack points out that unless the physician is well informed on matters such as the writing of correct prescriptions, drug advertisement and promotion, the question of generic equivalency, he will be unable to make adequate choices among the available drugs. It is to be hoped that the students of medicine will not be deterred from using *The New Handbook of Prescription Drugs* and forming their own opinion on its merits after they have learned their pharmacology.

OTTO KRAYER, M.D.
Gustavus Adolphus Pfeiffer
Professor of Pharmacology,
Emeritus, HMS

book REVIEWS

A Biographical History of Medicine, Excerpts and Essays on the Men and Their Work, by John H. Talbot '28. New York: Grune and Stratton, 1970. 1211 pages. Illustrated. \$60.00

John H. Talbot, formerly professor of medicine at the University of Buffalo School of Medicine and physician-in-chief, Buffalo General Hospital, and now Editor Emeritus of the *Journal of the American Medical Association*, has compiled a book from the biographical accounts published in *JAMA* over the last decade. The men extend from Hammurabi, 2250 B.C. to the living, Eugene V. Opie and are arranged chronologically. The average account contains 1300 words with six or so primary and secondary source references. Each account is accompanied by a likeness from a photograph, relief, statue, or a composite drawing by Gabriel Bako. The accounts are balanced and critical but the references do not always offer the latest or best historical scholarship — for example, the essay on

Harvey excludes Pagel's great work.

Talbot writes in his preface, "I have attempted to trace the history of medicine as a contemporary clinical scholar who is not in any way striving to be a professional medical historian." That is the great asset of this book. It presents many recent figures and the list of acknowledgments seems to be half and half clinical and historical scholars. This is the one book in which to find biographical accounts of 20th century physicians written by their peers.

The medical biographical dictionaries most used today are Kelly's *Cyclopedia of American Medical Biography*, 1912, and the *Dictionary of American Medical Biography*, 1928, by Dr. Walter C. Burrage and Howard A. Kelly, and the *Dictionary of American Biography*, 1936. Scribner's is now preparing a *Dictionary of Scientific Biography*, edited under the auspices of the American Council of Learned Societies. Charles C. Gillespie is editor-in-chief.

Talbot's book will happily fit in

